Patent Claims

1. An electromagnetic linear drive (1) having a stator (2) and an armature (7) which can be moved relative to the stator (2), with an air gap (9, 9a, 9b) being formed between the stator (2) and the armature (7) at least during any relative movement between one surface of the armature (7) and one surface of the stator (2), characterized in that the air gap (9, 9a, 9b) is arranged at least partially obliquely with respect to the direction of the relative movement.

2. The electromagnetic linear drive (1) as claimed in claim 1, characterized in that the surface of the armature (7) and the surface of the stator (2) are aligned parallel to one another.

3. The electromagnetic linear drive (1) as claimed in claim 1 or 2, characterized in that the surfaces of the stator (2) and of the armature (7) have surface elements (10, 11) whose surface normals differ from one another.

4. The electromagnetic linear drive (1) as claimed in claim 3, characterized in that different surface elements (10, 11) have different gradients with respect to the direction of the relative movement of the stator (2) and armature (7).

5. The electromagnetic linear drive (1) as claimed in one of claims 1 to 4 characterized in that the surfaces are stepped, and the steps are bounded by interpolated envelope surfaces which are arranged obliquely with respect to the direction of the relative movement.

6. The electromagnetic linear drive (1) as claimed in claim 5, characterized in that the steps have first sections (12) on which the surfaces of the stator (2) and armature (7) touch one

another when the stator (2) and the armature (7) are in a first position with respect to one another.

7. The electromagnetic linear drive (1) as claimed in claim 6, characterized in that the steps have second sections (13), on which an intermediate space (14) is formed between the surfaces of the stator (2) and the armature (7) when the stator (2) and the armature (7) are in the first position with respect to one another.

8. The electromagnetic linear drive (1) as claimed in claim 6 or 7, characterized in that the first sections (12) are surfaces which are arranged essentially at right angles to the direction of the relative movement.